IEPA Log No.: **C-0018-12**
CoE appl. #: **LRL-2013-907-mad**

Public Notice Beginning Date: **March 16, 2016**
Public Notice Ending Date: **April 15, 2016**

Section 401 of the Federal Water Pollution Control Act
Amendments of 1972

Section 401 Water Quality Certification to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: Lafarge North America – RR#1 Box 267, Cave In Rock, IL 62919

Discharge Location: Near Cave In Rock in Section 8 of Township 12S, Range 10E of the 3rd P.M. in Hardin County.

Name of Receiving Water: unnamed tributaries of Anthony Creek

Project Description: Proposed 30 year surface mining expansion plan for existing limestone quarry.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Darren Gove at 217/782-3362.

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Fact Sheet for Antidegradation Assessment
For Lafarge North America
IEPA Log No. C-0018-12
COE Log No. LRL-2013-907-mad
Contact: Diane Shasteen (217) 558-2012
Public Notice Start Date: March 16, 2016

Lafarge North America ("Applicant") has applied for Section 401 water quality certification for impacts to approximately 1,964 linear feet (LF) of intermittent stream and 3,609 LF of ephemeral stream. The stream segments to be impacted are unnamed tributaries to Anthony Creek, a tributary to the Ohio River. The proposed project encompasses Section 8, Township 12 South, Range 10 East and is located to the east of Cave In Rock, Hardin County, Illinois. The purpose of the project is to open reserves of limestone and sandstone required to produce Portland Cement and to open the reserves necessary to meet the customer needs for crushed stone. The Applicant has proposed a 30 year mine plan that would increase the footprint of the quarry by approximately 150 acres. The existing rock quarry has been in operation since 1963 and supplies basic raw materials for the Lafarge Joppa Cement Plant located 65 miles downstream on the Ohio River. Open pit mining will be utilized to extract limestone and sandstone. This process involves stripping away and stockpiling the top soil layer and sandstone to expose the cement quality limestone and sandstone below. The stone used for cement or aggregate is drilled, blasted, loaded and hauled from the pit to the processing plant where it is crushed, sized, and stored awaiting shipment. Crushed stone is transported via a reclaim conveyor to barges on the Ohio River for transportation to the Joppa Cement Plant or to other customers on the Ohio and Mississippi Rivers.

In addition to the stream impacts, the proposed project will impact 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland. Off-site stream mitigation would be located to the west of the impact area in the Peter Creek-Ohio River watershed. The mitigation would involve the restoration of 2,178 LF of intermittent stream and the re-creation of 2,272 LF of ephemeral stream providing overall stream quality improvement over existing conditions. Stream mitigation will include installing in-stream habitat structures, creating flood prone areas to promote overbank flooding where streams are currently entrenched and providing a 50' (ephemeral) to 100' (intermittent) riparian zone width along the mitigated stream segments. The mitigation for the 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland will include the permanent dedication of 72.21 acres of high quality limestone bluff property known as Barker Bluff to the Illinois Department of Natural Resources (IDNR) and Illinois Nature Preserves Commission (INPC). Barker Bluff is one of the only exposed limestone bluff ecosystems in the state and contains over 3,000 feet of stream and 1.38 acres of forested wetland along with four threatened or endangered plant species. The Applicant has held a conservation easement on this property with these agencies for the past five years and will enter into a permanent agreement for protection of the site.

Information used in this review was obtained from the Applicant in a document entitled, Illinois Joint Application, Lafarge North America Cave In Rock Quarry 30 Year Mine Plan received April 2, 2015 and supplemental documents received August 4, 2015 and February 3, 2016.

Identification and Characterization of the Affected Water Body.

The ephemeral and intermittent streams to be impacted, unnamed tributaries (no Segment Codes) to Anthony Creek (no Segment Code), have not been assessed by Illinois EPA. Anthony Creek, a direct tributary to the Ohio River, has not been assessed. None of these streams are listed as biologically significant streams in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor are they given an integrity rating in that document. Anthony Creek is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard. The USGS Illinois Streamstats basin characteristics program gives a watershed size of 2.69 square miles for Anthony Creek and 0.29 square miles for the combined unnamed tributaries. According to the Illinois State Water Survey, Anthony Creek and the unnamed tributaries are likely to be a 7Q1.1 zero flow streams. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 5 square miles or less. These streams will exhibit no flow for at least a continuous seven day period nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found.

The Applicant contracted T.H.E. Engineers, Inc. to identify water resources located in the project area. In the fall of 2006 and summer of 2011, a bioassessment was conducted following the Environmental Protection Agency's Rapid Bio-assessment Protocol (RBP II) for wadeable and headwater streams. This assessment was completed on several stream segments in the project area. Two intermittent stream segments and four ephemeral stream segments were determined to be potentially impacted by the project. Physical habitat assessments for these stream segments scored from the poor to marginal to sub-optimal categories; the sites were considered limited due to lack of available cover for aquatic species, lack of bank stability, low channel flow status, and lack of riffles.

In July 2014, T.H.E. Engineers, Inc. also completed a wetland assessment at the proposed site. A total of 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland were delineated in the project area. The site was classified as a 30' X 40' old pond surrounded by a 5' to 15' wide forested wetland border. Species composition included tree and sedge species such as sycamore (*Platanus occidentalis*), black willow (*Salix nigra*), and Frank's sedge (*Carex frankii*). No FQI was reported for the forested wetland.

Impacts to these areas are unavoidable and off-site mitigation will consist of the following:

- Restoration of 2,178 LF of intermittent stream – 7,078.5 credits
- Re-creation of 2,272 LF of ephemeral stream – 8,803.1 credits
- Permanent protection of 3,029 LF of ephemeral stream within Barker Bluff – 8,329.8
- Stream mitigation includes a 100' forest riparian buffer for the restored intermittent stream and 50' forest riparian buffer for the re-created ephemeral streams

The off-site mitigation for the intermittent and ephemeral streams and associated riparian buffers exceeds the needed mitigation credits (22,272.8) by 1,938 credits. The mitigation work will be performed before, or concurrent with, the development of the impact area in order to reduce temporal loss. The mitigation for the 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland includes the permanent protection of 72.21 acres of Barker Bluff

which contains 1.38 acres of forested wetlands resulting in a mitigation ratio of approximately 10:1.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The pollutant load increases that would occur during this project include possible increases in suspended solids during mining operations. The Applicant has a Stormwater Pollution Prevention Plan (SWPPP) for four existing stormwater outfalls on site. Several detention ponds are located on site and surface water flows are managed through earth berms and site topography to direct water away from traffic and stockpile areas, reduce peak surface water flow to prevent erosion, and drain water toward stormwater sumps at the existing outfalls. During clearing, grading, or excavation additional Best Management Practices (BMPs) will be implemented. Drainage locations serving more than one acre will have sediment basins and /or temporary sediment traps. Silt fences, vegetative buffer strips, or equivalent sediment controls will be implemented for all down slope boundaries and for side slope boundaries deemed appropriate by site conditions. Inspections and maintenance of control measures associated with the expansion project will continue until final stabilization has been achieved on the disturbed area or until the commencement of the active mining phase for areas temporarily stabilized as a precursor to mining.

The proposed project will eliminate approximately 1,964 LF of intermittent stream and 3,609 LF of ephemeral streams, unnamed tributaries to Anthony Creek, a tributary to the Ohio River and approximately 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids in the project area will be local and temporary. Erosion control measures mentioned above will be utilized to minimize any increase in suspended solids. All releases from the sedimentation basin will be regulated by Section 402 of the Clean Water Act and subject to NPDES effluent discharge limits.

Off-site stream mitigation including the restoration of 2,178 LF of intermittent stream and the re-creation of 2,272 LF of ephemeral stream is proposed for streams located to the west of the impact area in the Peter Creek-Ohio River watershed. Stream mitigation would involve providing overall stream quality improvement over existing conditions via the installation of in-stream habitat structures, creation of flood prone areas to promote overbank flooding where streams are currently entrenched and providing a 50’ (ephemeral) to 100’ (intermittent) riparian zone width along the mitigated stream segments.

The mitigation for the 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland will include the permanent dedication of 72.21 acres of high quality limestone bluff property known as Barker Bluff to the Illinois Department of Natural Resources (IDNR) and Illinois Nature Preserves Commission (INPC). Barker Bluff is one of the only exposed limestone bluff ecosystems in the state and contains over 3,000 feet of stream and 1.38 acres of forested wetland along with four threatened or endangered plant species. The Applicant has held

a conservation easement on this property with these agencies for the past five years and will enter into a permanent agreement for protection of the site.

Purpose and Social & Economic Benefits of the Proposed Activity.

The purpose of the project is to open reserves of limestone and sandstone required to produce Portland Cement and to open the reserves necessary to meet the customer needs for crushed stone. The Applicant has proposed a 30 year mine plan that would increase the footprint of the quarry by approximately 150 acres. The existing rock quarry has been in operation since 1963 and supplies 90% of the basic raw materials for the Lafarge Joppa Cement Plant located 65 miles downstream on the Ohio River. The Cement Plant employs over 100 full-time workers. The quarry's footprint has not changed significantly for the past 20 years resulting in critically narrow working benches and the need to expand to access adequate reserves to insure uninterrupted supply of crushed stone to the cement plant and other customers on the Ohio and Mississippi Rivers.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

The Applicant has completed an assessment of the economic and environmental advantages and disadvantages of four alternatives to expanding Lafarge quarry including a No-Build Alternative. The No Build alternative would result in company losses and possible closure of the mine and Joppa Cement plant. The preferred action alternative takes into consideration the utilization of mineral and property rights and the preservation of high quality rare natural communities that exist on Lafarge property.

No Build Alternative:

- Avoids all impacts to jurisdictional waterbodies and protected natural areas
- Exhausts the supply of cement quality stone in approximately 3 years
- Leaves Joppa Cement Plant without a raw material source and places the plant in a noncompetitive position of having to purchase 100% of raw materials needed to produce Portland Cement
- Loss of approximately 150 jobs at quarry and cement plant
- Additional economic burden placed on economically fragile region
- Does not meet the economic need for the project

Build Alternative 1: Impact All

- Permits and maximizes the mining of all raw material reserves within Lafarge property boundaries
- Most economically beneficial for company
- Impacts two Illinois Natural Areas Inventory (INIA) sites- Collier Glade and Barker Bluff
- Impacts Anthony Creek, a perennial stream that flows to the Ohio River
- Excessive amount of impacts, alternative considered environmentally unfeasible

Build Alternative 2: Partial Impact – Mining through Anthony Creek

- Avoids impacts to Collier Glade and Barker Bluff
- Anthony Creek flows northwest to southeast across the Lafarge property
- Mines all reserves overlain by Anthony Creek
- Impacts approximately 13,593 LF of stream channel
- Excessive amount of impacts, alternative considered environmentally unfeasible

Build Alternative 3: Preferred Alternative

- Avoids impacts and preserves Collier Glade, Barker Bluff, and property north of Anthony Creek
- Reduces impacts to approximately 7,000 LF of stream
- Reduces the permitted area by approximately 250 acres
- Reduces overall mine reserves by approximately 320 million tons
- Provides enough reserves to support local aggregate sales
- Supplies the Joppa Cement plant with approximately 30 years of raw mix at current production capacity and 15 years of raw mix when new cement plant comes on line
- Retains approximately 150 jobs in an economically depressed area

Conclusion:

The construction of the proposed project will follow conditions set forth by the Agency and USACE. The expansion of the Lafarge quarry will provide an ample supply of raw material for the Joppa Cement plant, retain approximately 150 jobs in a depressed area of the state, and preserve two high quality natural areas. Collier Glade is an extremely rare natural community with 2.5 acres of highest quality limestone glade that adjoins a 1.5 acre glade owned by the Nature Conservancy. These properties together make up one of the largest remnants of what once was the largest continuous glade system in Illinois. Barker Bluff is a very high quality natural area containing dry upland forest, limestone bluff, and high quality limestone glade communities. The Applicant is committed to the preservation of these unique ecosystems and will permanently dedicate 72.21 acres of Barker Bluff to the Illinois Department of Natural Resources (IDNR) and Illinois Nature Preserves Commission (INPC) for mitigation of the 0.056 acres of open water with 0.08 acres of fringe palustrine forested wetland impacted by the proposed project.

Disturbance to ephemeral and intermittent streams will be mitigated through the restoration of 2,178 LF of intermittent stream and the re-creation of 2,272 LF of ephemeral stream located to the west of the impact area in the Peter Creek-Ohio River watershed.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities

An EcoCAT endangered species consultation submitted on June 23, 2015 to the Illinois Department of Natural Resources resulted in the identification of several protected resources

including INAI sites, nature preserves, and land and water reserves in the vicinity of the project location. IDNR has evaluated the EcoCAT information, concluded that adverse effects are unlikely, and terminated consultation for IDNR Project #1513926 on June 23, 2015. The USFWS reviewed the project in regards to federally threatened and endangered bat species, gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and northern long-eared bat (*Myotis septentrionalis*). The Applicant has agreed to several measures to avoid and minimize potential negative impacts to bat species including the clearing of trees outside the April 1 to September 30 active season, conducting tree clearing incrementally as mining progresses (~10 acres/year), and permanent conservation easement of Barker Bluff which contains suitable summer habitat for all listed bat species.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time this assessment was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community at large by providing approximately 150 direct jobs, a continued supply of raw material to Joppa Cement plant, and increased tax revenues in an economically depressed area of the state. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.